	Low Impact Development Water Quality Crediting Spreadsheets							
	Α	В	С	D	E			
1	LID Credits LOW IMPERVIOUS COVER (< 4	0%) Table C	Organization					
2			-					
3	cells in blue are data entry cells							
5	cells in yellor are calculated results		J					
6	Project Name:		1					
7	Site Area (acres):							
8	Impervious Cover (%):		1					
9	Impervious Cover (acres):							
10								
11			1: Credits					
40	Credit	Volume Reduction	Unit	Credit Area	I-Reduction			
12	Reforesting Riparian Area	Credit (%) 50	acres forested	(ac)	(acres)			
	Expanding/Protecting Riparian Area	50	acres expanded and/or protected					
	3. Open Space Conservation		del de dispariada arrayor protectos					
16	3a. A/B Soils	75	acres conserved					
17	3b. C/D Soils	50	acres conserved					
	4. Open Space Conservation w/ Hydrologic							
	Function	100	1					
19	4a. A/B Soils	100	acres conserved					
20	4b. C/D Soils 5. On-Lot Rain Garden, Dry Well, Infiltration	75	acres conserved					
21	Practice							
22	5a. A/B Soils	100	acres of rooftop treated					
23	5b. C/D Soils	50	acres of rooftop treated					
24	6. Rainwater Harvesting							
25	6a. Ran Barrels (small storage)	10	acres of rooftop treated					
26	6b. Cisterns (large storage)	25	acres of rooftop treated					
27	7. On-Lot Soil Amendments		T					
28	7a. Just soil amendment	25	acres amended					
30	7b. With impervious disconnection 8. Pervious Parking	50	acres amended					
31	8a. A/B Soils; infiltration design	100	acres of pervious parking					
32	8b. C/D Soils; underdrain design	50	acres of pervious parking					
33	8c. Other parking draining to perv. parking	25	acres draining to pervious parking					
34	9. Green Roof							
35	9a. Extensive	50	acres of green roof					
36	9b. Intensive	75	acres of green roof					
37	10. Grass Channels		Hannandaria arriva tort t					
20	10a. A/B Soils	75	Impervious acres draining to grass					
38		75	channel Impervious acres draining to grass					
39	10b. C/D Soils	50	channel					
40	11. Other Impervious Disconnection	- 00	ona.mo.					
41	11a. A/B Soils	50	impervious acres treated					
42	11b. C/D Soils	25	impervious acres treated					
43								
44			TOTAL CREDIT AREA					
45 46			ADJUSTED IMPERVIOUS ARI ADJUSTED IMPERVIOUS %					
47			ADJUSTED INFERVIOUS /	0				
48			STEP 2: BMP Efficiency Req					
49			le Method Calculation Parameters	(post-de	velopment)			
50		P	Precipitation (inches/year)					
51		Pj	Fraction of Runoff Producing Ev					
52		l Bv	Adjusted Impervious Cover (% Runoff Coefficient	(o)				
53 54	1	Rv C	Mean Conc. of Total Phosphorus ((mg/L)				
55	1	A	Area (acres)	(111g/L)				
56	1	,,	7 11 00 (00100)					
		D 1	Development Load (lbs. b.:.)					
57		Post	-Development Load (lbs./yr.)					
58			ed Removal (0.28 TP standard)					
59		Adjuste	d BMP Efficiency Requirement					
60			CTED 2. DMD-6	Solootio				
61			STEP 3: BMP S					
			DMD Tyme		val Efficiency for Impervious Cover			
62			BMP Type		Site (< 40% I)			
63	1		Infiltration 1		65%			
64	1		Infiltration 2	<u> </u>	95%			
65			Bioretention 1	<u> </u>	45%			
66			Bioretention 2		55%			
67			Extended Detention		30%			
68			Filtering Practice 1		60%			
69			Filtering Practice 2		65%			
70			Constructed Wetland 1		45%			
71			Constructed Wetland 2		75%			
72	1		Wet Pond 1 Wet Pond 2	1	50% 75%			
73			*VVELEUIU /	i	7 37/0			

1

	Low Impact Developm	ent Water	Quanty Circuiting Spicausii	eets	
	Г А	В	С	D	E
1	LID Credits LOW IMPERVIOUS COVER (< 4			U	E
2	Ì	1		_	
3	cells in blue are data entry cells				
<u>4</u> 5	cells in yellor are calculated results		_		
6	Project Name:		1		
7	Site Area (acres):				
8	Impervious Cover (%):				
9 10	Impervious Cover (acres):	=+b7*b8/100			
11		STEP	1: Credits		
		Volume		Credit	
	Credit	Reduction	Unit	Area	I-Reduction
12		Credit (%)		(ac)	(acres)
13 14	Reforesting Riparian Area Expanding/Protecting Riparian Area	50 50	acres forested acres expanded and/or protected		=+d13*b13/100 =+d14*b14/100
15	3. Open Space Conservation	30	acres expanded and/or protected		=+d14 b14/100
16	3a. A/B Soils	75	acres conserved		=+d16*b16/100
17	3b. C/D Soils	50	acres conserved		=+d17*b17/100
4.	4. Open Space Conservation w/ Hydrologic				
18 19	Function 4a. A/B Soils	100	acres conserved		-±d10*b10/100
19 20	4a. A/B Soils 4b. C/D Soils	100 75	acres conserved acres conserved		=+d19*b19/100 =+d20*b20/100
	5. On-Lot Rain Garden, Dry Well, Infiltration	,,,			. 420 520/100
21	Practice				
22	5a. A/B Soils	100	acres of rooftop treated		=+d22*b22/100
23	5b. C/D Soils	50	acres of rooftop treated		=+d23*b23/100
24 25	6. Rainwater Harvesting	10	acres of rooften treated		=+d25*b25/100
26	6a. Ran Barrels (small storage) 6b. Cisterns (large storage)	25	acres of rooftop treated acres of rooftop treated		=+d25*b25/100 =+d26*b26/100
27	7. On-Lot Soil Amendments				
28	7a. Just soil amendment	25	acres amended		=+d28*b28/100
29	7b. With impervious disconnection	50	acres amended		=+d29*b29/100
30	8. Pervious Parking	100	In area of man days mortion		. 124*124/400
31 32	8a. A/B Soils; infiltration design 8b. C/D Soils; underdrain design	100 50	acres of pervious parking acres of pervious parking		=+d31*b31/100 =+d32*b32/100
33	8c. Other parking draining to perv. parking	25	acres draining to pervious parking		=+d32 b32/100 =+d33*b33/100
34	9. Green Roof		3 - 1 - 3 - 3	1	
35	9a. Extensive	50	acres of green roof		=+d35*b35/100
36	9b. Intensive	75	acres of green roof		=+d36*b36/100
37	10. Grass Channels		Impervious acres draining to grass		
38	10a. A/B Soils	75	channel		=+d38*b38/100
			Impervious acres draining to grass		
39	10b. C/D Soils	50	channel		=+d39*b39/100
40	11. Other Impervious Disconnection		1		140#1 40/400
41	11a. A/B Soils 11b. C/D Soils	50 25	impervious acres treated impervious acres treated		=+d40*b40/100 =+d41*b41/100
43	TTD. C/D Soils	25	Impervious acres treated		=+441 041/100
44	1		TOTAL CREDIT AREA		=SUM(e13:e42)
45					-30 W(C 13.C42)
			ADJUSTED IMPERVIOUS ARI		=+b9-e44
46					. ,
			ADJUSTED IMPERVIOUS ARI	Ó	=+b9-e44 =100*e45/b7
46 47		Simp	ADJUSTED IMPERVIOUS ARI ADJUSTED IMPERVIOUS % STEP 2: BMP Efficiency Require Method Calculation Parameters	uiremen	=+b9-e44 =100*e45/b7
46 47 48 49 50		Р	ADJUSTED IMPERVIOUS ARI ADJUSTED IMPERVIOUS % STEP 2: BMP Efficiency Require Method Calculation Parameters Precipitation (inches/year)	uiremen (post-de	=+b9-e44 =100*e45/b7 at evelopment)
46 47 48 49 50 51			ADJUSTED IMPERVIOUS ARI ADJUSTED IMPERVIOUS % STEP 2: BMP Efficiency Requirements of the Method Calculation Parameters of Precipitation (inches/year) Fraction of Runoff Producing Evitation (inches/year)	uiremer (post-de	=+b9-e44 =100*e45/b7 at evelopment) 43 0.9
46 47 48 49 50 51 52		P Pj I	ADJUSTED IMPERVIOUS ARI ADJUSTED IMPERVIOUS % STEP 2: BMP Efficiency Require Method Calculation Parameters Precipitation (inches/year) Fraction of Runoff Producing Evidence Adjusted Impervious Cover (%)	uiremer (post-de	=+b9-e44 =100*e45/b7 It evelopment) 43 0.9 =e46
46 47 48 49 50 51 52 53		Р	ADJUSTED IMPERVIOUS ARI ADJUSTED IMPERVIOUS % STEP 2: BMP Efficiency Require Method Calculation Parameters Precipitation (inches/year) Fraction of Runoff Producing Evaluated Impervious Cover (%) Runoff Coefficient	uiremen (post-de ents	=+b9-e44 =100*e45/b7 It evelopment) 43 0.9 =e46 =0.05+(0.009*e52
46 47 48 49 50 51 52		P Pj I Rv	ADJUSTED IMPERVIOUS ARI ADJUSTED IMPERVIOUS % STEP 2: BMP Efficiency Require Method Calculation Parameters Precipitation (inches/year) Fraction of Runoff Producing Evidence Adjusted Impervious Cover (%)	uiremen (post-de ents	=+b9-e44 =100*e45/b7 It evelopment) 43 0.9 =e46
46 47 48 49 50 51 52 53		P Pj I Rv C	ADJUSTED IMPERVIOUS ARI ADJUSTED IMPERVIOUS % STEP 2: BMP Efficiency Require Method Calculation Parameters Precipitation (inches/year) Fraction of Runoff Producing Ev. Adjusted Impervious Cover (% Runoff Coefficient Mean Conc. of Total Phosphorus (%)	Lifremen (post-de ents 6)	=+b9-e44 =100*e45/b7 at evelopment) 43 0.9 =e46 =0.05+(0.009*e52 0.28 =b7
46 47 48 49 50 51 52 53 54 55 56		P Pj I Rv C A	ADJUSTED IMPERVIOUS ARI ADJUSTED IMPERVIOUS % STEP 2: BMP Efficiency Require Method Calculation Parameters Precipitation (inches/year) Fraction of Runoff Producing Evaluated Impervious Cover (% Runoff Coefficient Mean Conc. of Total Phosphorus (% Area (acres))	uiremen (post-de ents 6)	=+b9-e44 =100*e45/b7 It evelopment) 43 0.9 =e46 =0.05+(0.009*e52 0.28 =b7 50*e51*e53)/12)*
46 47 48 49 50 51 52 53 54 55 56		P Pj I Rv C A	ADJUSTED IMPERVIOUS ARI ADJUSTED IMPERVIOUS % STEP 2: BMP Efficiency Require Method Calculation Parameters Precipitation (inches/year) Fraction of Runoff Producing Evadjusted Impervious Cover (% Runoff Coefficient Mean Conc. of Total Phosphorus (% Area (acres)) -Development Load (lbs./yr.)	uiremen (post-de ents 6) mg/L)	=+b9-e44 =100*e45/b7 It evelopment) 43 0.9 =e46 =0.05+(0.009*e52 0.28 =b7 50*e51*e53)/12)* e54*e55*2.72
46 47 48 49 50 51 52 53 54 55 56		P Pj I Rv C A Post	ADJUSTED IMPERVIOUS ARI ADJUSTED IMPERVIOUS % STEP 2: BMP Efficiency Require Method Calculation Parameters Precipitation (inches/year) Fraction of Runoff Producing Evaluated Impervious Cover (% Runoff Coefficient Mean Conc. of Total Phosphorus (% Area (acres)) -Development Load (lbs./yr.) and Removal (0.28 TP standard)	uiremen (post-de ents 6) mg/L)	=+b9-e44 =100*e45/b7 It evelopment) 43 0.9 =e46 =0.05+(0.009*e52 0.28 =b7 50*e51*e53)/12)* e54*e55*2.72 +e57-0.28*e55
46 47 48 49 50 51 52 53 54 55 56		P Pj I Rv C A Post	ADJUSTED IMPERVIOUS ARI ADJUSTED IMPERVIOUS % STEP 2: BMP Efficiency Require Method Calculation Parameters Precipitation (inches/year) Fraction of Runoff Producing Evadjusted Impervious Cover (% Runoff Coefficient Mean Conc. of Total Phosphorus (% Area (acres)) -Development Load (lbs./yr.)	uiremen (post-de ents 6) mg/L)	=+b9-e44 =100*e45/b7 It evelopment) 43 0.9 =e46 =0.05+(0.009*e52 0.28 =b7 50*e51*e53)/12)* e54*e55*2.72
46 47 48 49 50 51 52 53 54 55 56 57 58 59		P Pj I Rv C A Post	ADJUSTED IMPERVIOUS ARI ADJUSTED IMPERVIOUS % STEP 2: BMP Efficiency Require Method Calculation Parameters Precipitation (inches/year) Fraction of Runoff Producing Evaluated Impervious Cover (% Runoff Coefficient Mean Conc. of Total Phosphorus (% Area (acres)) -Development Load (lbs./yr.) and Removal (0.28 TP standard)	uiremen (post-de ents 6) mg/L)	=+b9-e44 =100*e45/b7 It evelopment) 43 0.9 =e46 =0.05+(0.009*e52 0.28 =b7 50*e51*e53)/12)* e54*e55*2.72 +e57-0.28*e55 =+e58/e57
46 47 48 49 50 51 52 53 54 55 56 57 58 59 60		P Pj I Rv C A Post	ADJUSTED IMPERVIOUS ARI ADJUSTED IMPERVIOUS % STEP 2: BMP Efficiency Require Method Calculation Parameters in Precipitation (inches/year) Fraction of Runoff Producing Evanoff Coefficient Runoff Coefficient Mean Conc. of Total Phosphorus (inches/year) Area (acres) Development Load (lbs./yr.) and Removal (0.28 TP standard) d BMP Efficiency Requirement	uiremen (post-de ents 6) mg/L) =((e	=+b9-e44 =100*e45/b7 at evelopment) 43 0.9 =e46 =0.05+(0.009*e52 0.28 =b7 50*e51*e53)/12)* e54*e55*2.72 +e57-0.28*e55 =+e58/e57
46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61		P Pj I Rv C A Post	ADJUSTED IMPERVIOUS ARI ADJUSTED IMPERVIOUS % STEP 2: BMP Efficiency Require Method Calculation Parameters in Precipitation (inches/year) Fraction of Runoff Producing Evanoff Coefficient Runoff Coefficient Mean Conc. of Total Phosphorus (inches/year) Area (acres) Development Load (lbs./yr.) and Removal (0.28 TP standard) d BMP Efficiency Requirement	ents (post-de ents 6) (mg/L) =((e Remo	=+b9-e44 =100*e45/b7 It Evelopment) 43 0.9 =e46 =0.05+(0.009*e52 0.28 =b7 50*e51*e53)/12)* e54*e55*2.72 +e57-0.28*e55 =+e58/e57 In Evelopment) In a continuous coveries co
46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61		P Pj I Rv C A Post	ADJUSTED IMPERVIOUS ARI ADJUSTED IMPERVIOUS % STEP 2: BMP Efficiency Require Method Calculation Parameters Precipitation (inches/year) Fraction of Runoff Producing Evaluated Impervious Cover (% Runoff Coefficient Mean Conc. of Total Phosphorus (% Area (acres) -Development Load (lbs./yr.) and Removal (0.28 TP standard) d BMP Efficiency Requirement STEP 3: BMP S BMP Type	ents (post-de ents 6) (mg/L) =((e Remo	=+b9-e44 =100*e45/b7 at evelopment) 43 0.9 =e46 =0.05+(0.009*e52 0.28 =b7 50*e51*e53)/12)* e54*e55*2.72 +e57-0.28*e55 =+e58/e57 aboval Efficiency for Impervious Cover Site (< 40% I)
46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61		P Pj I Rv C A Post	ADJUSTED IMPERVIOUS ARI ADJUSTED IMPERVIOUS % STEP 2: BMP Efficiency Require Method Calculation Parameters of Precipitation (inches/year) Fraction of Runoff Producing Evaluated Impervious Cover (% Runoff Coefficient Mean Conc. of Total Phosphorus (% Area (acres)) Development Load (lbs./yr.) ad Removal (0.28 TP standard) d BMP Efficiency Requirement STEP 3: BMP S BMP Type	ents (post-de ents 6) (mg/L) =((e Remo	=+b9-e44 =100*e45/b7 It evelopment) 43 0.9 =e46 =0.05+(0.009*e52 0.28 =b7 50*e51*e53)/12)* e54*e55*2.72 +e57-0.28*e55 =+e58/e57 In pervious Cover Site (< 40% I) 65%
46 47 48 49 50 51 52 53 54 55 56 57 58 60 61		P Pj I Rv C A Post	ADJUSTED IMPERVIOUS ARI ADJUSTED IMPERVIOUS % STEP 2: BMP Efficiency Require Method Calculation Parameters of Precipitation (inches/year) Fraction of Runoff Producing Ev. Adjusted Impervious Cover (% Runoff Coefficient Mean Conc. of Total Phosphorus (Marca (acres)) Development Load (lbs./yr.) ad Removal (0.28 TP standard) d BMP Efficiency Requirement STEP 3: BMP S BMP Type Infiltration 1 Infiltration 2	ents (post-de ents 6) (mg/L) =((e Remo	=+b9-e44 =100*e45/b7 It evelopment) 43 0.9 =e46 =0.05+(0.009*e52 0.28 =b7 50*e51*e53)/12)* e54*e55*2.72 +e57-0.28*e55 =+e58/e57 n oval Efficiency for Impervious Cover Site (< 40% I) 65% 95%
46 47 48 49 50 51 52 53 54 55 56 57 58 60 61 62 63 64 65		P Pj I Rv C A Post	ADJUSTED IMPERVIOUS ARI ADJUSTED IMPERVIOUS % STEP 2: BMP Efficiency Req Ille Method Calculation Parameters of Precipitation (inches/year) Fraction of Runoff Producing Ev. Adjusted Impervious Cover (% Runoff Coefficient Mean Conc. of Total Phosphorus (Area (acres) Development Load (lbs./yr.) and Removal (0.28 TP standard) d BMP Efficiency Requirement STEP 3: BMP S BMP Type Infiltration 1 Infiltration 2 Bioretention 1	ents (post-de ents 6) (mg/L) =((e Remo	=+b9-e44 =100*e45/b7 at evelopment) 43 0.9 =e46 =0.05+(0.009*e52 0.28 =b7 50*e51*e53)/12)* e54*e55*2.72 +e57-0.28*e55 =+e58/e57 an oval Efficiency for Impervious Clye 65% 95% 45%
46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66		P Pj I Rv C A Post	ADJUSTED IMPERVIOUS ARI ADJUSTED IMPERVIOUS % SITEP 2: BMP Efficiency Require Method Calculation Parameters Precipitation (inches/year) Fraction of Runoff Producing Ev. Adjusted Impervious Cover (% Runoff Coefficient Mean Conc. of Total Phosphorus (% Area (acres) -Development Load (lbs./yr.) and Removal (0.28 TP standard) d BMP Efficiency Requirement SITEP 3: BMP S BMP Type Infiltration 1 Infiltration 2 Bioretention 1 Bioretention 2	ents (post-de ents 6) (mg/L) =((e Remo	=+b9-e44 =100*e45/b7 It evelopment) 43 0.9 =e46 =0.05+(0.009*e52 0.28 =b7 50*e51*e53)/12)* e54*e55*2.72 +e57-0.28*e55 =+e58/e57 n oval Efficiency for Impervious Cover Site (< 40% I) 65% 95%
46 47 48 49 50 51 52 53 54 55 56 57 58 60 61 62 63 64 65		P Pj I Rv C A Post	ADJUSTED IMPERVIOUS ARI ADJUSTED IMPERVIOUS % STEP 2: BMP Efficiency Req Ille Method Calculation Parameters of Precipitation (inches/year) Fraction of Runoff Producing Ev. Adjusted Impervious Cover (% Runoff Coefficient Mean Conc. of Total Phosphorus (Area (acres) Development Load (lbs./yr.) and Removal (0.28 TP standard) d BMP Efficiency Requirement STEP 3: BMP S BMP Type Infiltration 1 Infiltration 2 Bioretention 1	ents (post-de ents 6) (mg/L) =((e Remo	=+b9-e44 =100*e45/b7 tt evelopment) 43 0.9 =e46 =0.05+(0.009*e52 0.28 =b7 50*e51*e53)/12)* e54*e55*2.72 +e57-0.28*e55 =+e58/e57 10 oval Efficiency for Impervious Cover Site (< 40% I) 65% 95% 45% 55%
46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69		P Pj I Rv C A Post	ADJUSTED IMPERVIOUS ARI ADJUSTED IMPERVIOUS % STEP 2: BMP Efficiency Req Ille Method Calculation Parameters of Precipitation (inches/year) Fraction of Runoff Producing Ev. Adjusted Impervious Cover (% Runoff Coefficient Mean Conc. of Total Phosphorus (Area (acres) Development Load (lbs./yr.) ad Removal (0.28 TP standard) d BMP Efficiency Requirement STEP 3: BMP S BMP Type Infiltration 1 Infiltration 2 Bioretention 1 Bioretention 2 Extended Detention Filtering Practice 1 Filtering Practice 2	ents (post-de ents 6) (mg/L) =((e Remo	=+b9-e44 =100*e45/b7 It evelopment) 43 0.9 =e46 =0.05+(0.009*e52 0.28 =b7 50*e51*e53)/12)* e54*e55*2.72 +e57-0.28*e55 =+e58/e57 In oval Efficiency for Impervious Cover Site (< 40% I) 65% 95% 45% 55% 30% 60% 65%
46 47 48 49 50 51 52 53 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70		P Pj I Rv C A Post	ADJUSTED IMPERVIOUS ARI ADJUSTED IMPERVIOUS % STEP 2: BMP Efficiency Req Ille Method Calculation Parameters in Precipitation (inches/year) Fraction of Runoff Producing Ev. Adjusted Impervious Cover (% Runoff Coefficient Mean Conc. of Total Phosphorus (Marcia (acres)) Development Load (lbs./yr.) ad Removal (0.28 TP standard) ad BMP Efficiency Requirement STEP 3: BMP S BMP Type Infiltration 1 Infiltration 2 Bioretention 1 Bioretention 2 Extended Detention Filtering Practice 1 Filtering Practice 1 Constructed Wetland 1	ents (post-de ents 6) (mg/L) =((e Remo	=+b9-e44 =100*e45/b7 It evelopment) 43 0.9 =e46 =0.05+(0.009*e52 0.28 =b7 50*e51*e53)/12)* e54*e55*2.72 +e57-0.28*e55 =+e58/e57 In poval Efficiency for Impervious Cover Site (< 40% I) 65% 95% 45% 55% 30% 60% 65% 45%
46 47 48 49 50 51 52 53 54 55 56 57 58 60 61 62 63 64 65 66 67 67 70 71		P Pj I Rv C A Post	ADJUSTED IMPERVIOUS ARI ADJUSTED IMPERVIOUS % STEP 2: BMP Efficiency Req Ille Method Calculation Parameters Precipitation (inches/year) Fraction of Runoff Producing Ev. Adjusted Impervious Cover (% Runoff Coefficient Mean Conc. of Total Phosphorus (Area (acres) Development Load (lbs./yr.) and Removal (0.28 TP standard) and BMP Efficiency Requirement STEP 3: BMP S BMP Type Infiltration 1 Infiltration 2 Bioretention 1 Bioretention 2 Extended Detention Filtering Practice 1 Filtering Practice 2 Constructed Wetland 1 Constructed Wetland 2	ents (post-de ents 6) (mg/L) =((e Remo	=+b9-e44 =100*e45/b7 It Evelopment) 43 0.9 =e46 =0.05+(0.009*e52 0.28 =b7 50*e51*e53)/12)* e54*e55*2.72 +e57-0.28*e55 =+e58/e57 In Dival Efficiency for Impervious Clover Site (< 40% I) 65% 95% 45% 55% 30% 60% 65% 45% 75%
48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 97 71 72		P Pj I Rv C A Post	ADJUSTED IMPERVIOUS ARI ADJUSTED IMPERVIOUS % STEP 2: BMP Efficiency Require Method Calculation Parameters Precipitation (inches/year) Fraction of Runoff Producing Event Adjusted Impervious Cover (% Runoff Coefficient Mean Conc. of Total Phosphorus (% Area (acres) -Development Load (lbs./yr.) ad Removal (0.28 TP standard) d BMP Efficiency Requirement STEP 3: BMP S BMP Type Infiltration 1 Bioretention 2 Extended Detention Filtering Practice 1 Filtering Practice 1 Filtering Practice 2 Constructed Wetland 1 Constructed Wetland 2 Wet Pond 1	ents (post-de ents 6) (mg/L) =((e Remo	=+b9-e44 =100*e45/b7 It evelopment) 43 0.9 =e46 =0.05+(0.009*e52 0.28 =b7 50*e51*e53)/12)* e654*e55*2.72 +e57-0.28*e55 =+e58/e57 noval Efficiency for Impervious Cover Site (< 40% I) 65% 95% 45% 55% 30% 60% 65% 45% 75% 50%
46 47 48 49 50 51 52 53 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71		P Pj I Rv C A Post	ADJUSTED IMPERVIOUS ARI ADJUSTED IMPERVIOUS % STEP 2: BMP Efficiency Req Ille Method Calculation Parameters Precipitation (inches/year) Fraction of Runoff Producing Ev. Adjusted Impervious Cover (% Runoff Coefficient Mean Conc. of Total Phosphorus (Area (acres) Development Load (lbs./yr.) and Removal (0.28 TP standard) and BMP Efficiency Requirement STEP 3: BMP S BMP Type Infiltration 1 Infiltration 2 Bioretention 1 Bioretention 2 Extended Detention Filtering Practice 1 Filtering Practice 2 Constructed Wetland 1 Constructed Wetland 2	ents (post-de ents 6) (mg/L) =((e Remo	=+b9-e44 =100*e45/b7 It Evelopment) 43 0.9 =e46 =0.05+(0.009*e52 0.28 =b7 50*e51*e53)/12)* e54*e55*2.72 +e57-0.28*e55 =+e58/e57 In Dival Efficiency for Impervious Clover Site (< 40% I) 65% 95% 45% 55% 30% 60% 65% 45% 75%

Low Impact Development Water Quality Crediting Spreadsheets LID Credits -- LOW IMPERVIOUS COVER (< 40%) cells in blue are data entry cells cells in yellow are calculated results Project Name: Site Area (acres) 100 Impervious (%) Impervious Area (acres Volume Credit Area Credit Reduction (ac Reduction Unit (ac) Credit (%) 1. Reforesting Riparian Area acres reforested 2. Expanding/Protecting Riparian Area 50 acres expanded and/or protected 2.5 3. Open Space Conservation 3.a. A/B Soils 0 0 3.b. C/D Soils 50 acres conserved 5 2.5 4. Open Space Conservation w/ Hydrologic 4.a. A/B Soils 100 acres conserved 0 acres conserved 5. On-Lot Rain Garden, Dry Well, Infiltration Practice 5.a. A/B Soils 5.b. C/D Soils 100 acres of rooftop treated 6. Rainwater Harvesting 6.a. Rain Barrels (small storage) 10 acres of rooftop treated 0.5 0.05 sterns (large storage) 7. On-Lot Soil Amendments 7.a. Just soil amendment7.b. With disconnection 25 acres amended 0.75 50 8. Pervious Parking 8.a. A/B Soils, infiltration design 8.b. C/D Soils, underdrain design 100 acres of pervious parking 50 acres of pervious parking 0 8.c. Other parking draining to 25 0 0 acres draining to pervious parking pervious parking 9. Green Roof 50 acres of green roof 0 9.a. Extensive 9.b. Intensive acres of green roof 10. Grass Channels impervious acres draining to grass 75 O 10 a A/B Soils 0 impervious acres draining to grass 10.b. C/D Soils 50 20 10 channel 11. Other Impervious Disconnection 11.a. A/B Soils 11.b. C/D Soils 50 impervious acres treated impervious acres treated TOTAL CREDIT AREA ADJUSTED IMPERVIOUS AREA ADJUSTED IMPERVIOUS % STEP 2. BMP Efficiency Requirement Parameter (post-development) Precipitation (in/yr) 43 P Fraction of Runoff Producing Events 0.9 Adjusted Imperviousness Cover (%) Runoff Coefficient Mean Concentration of Total Phosphorus (mg/L) 0.28 Area (acres) Post-Development Load (lb/yr) Required Removal (0.28 TP standard) Adjusted BMP Efficiency Requirement 15.12 35% STEP 3. BMP Selection Removal Efficiency for LOW **BMP Type** Impervious Cover Site (< 40% Infiltration 1 65% 95% Infiltration 2 Bioretention 1 45% Bioretention 2 55% Extended Detention 30% Filtering Practice #1 Filtering Practice #2 65% Constructed Wetland 1 45% Constructed Wetland 2 75% 50% Wet Pond 1

Wet Pond 2

3

(DCR199-182) (09/07)

	Low Impact Development Water Quality Crediting Spreadsheets						
	Α	В	С	D	E		
1	LID Credits HIGH IMPERVIOUS COVER (>	40%) Table	Organization				
3	cells in blue are data entry cells		ī				
4	cells in yellor are calculated results						
5	,		_				
6	Project Name:						
7	Site Area (acres):						
9	Impervious Cover (%): Impervious Cover (acres):						
10	impervious Gover (acres).						
11		STEP '	1: Credits				
		Volume		Credit			
40	Credit	Reduction	Unit	Area	I-Reduction		
12	Reforesting Riparian Area	Credit (%) 50	acres forested	(ac)	(acres)		
14	Expanding/Protecting Riparian Area	50	acres expanded and/or protected				
15	3. Open Space Conservation						
16	3a. A/B Soils	75	acres conserved				
17	3b. C/D Soils	50	acres conserved				
18	4. Open Space Conservation w/ Hydrologic Function						
19	4a. A/B Soils	100	acres conserved				
20	4b. C/D Soils	75	acres conserved				
24	5. On-Lot Rain Garden, Dry Well,						
21	Infiltration Practice 5a. A/B Soils	100	acres of rooftop treated				
23	5b. C/D Soils	50	acres of rooftop treated				
24	6. Rainwater Harvesting						
25	6a. Ran Barrels (small storage)	10	acres of rooftop treated				
26 27	6b. Cisterns (large storage) 7. On-Lot Soil Amendments	25	acres of rooftop treated				
28	7a. Just soil amendment	25	acres amended				
29	7b. With impervious disconnection	50	acres amended				
30	8. Pervious Parking						
31	8a. A/B Soils; infiltration design	100	acres of pervious parking				
32	8b. C/D Soils; underdrain design 8c. Other parking draining to perv. parking	50 25	acres of pervious parking acres draining to pervious parking				
34	9. Green Roof	20	acres draining to pervious parking				
35	9a. Extensive	50	acres of green roof				
36	9b. Intensive	75	acres of green roof				
37	10. Grass Channels		Impervious acres draining to grass				
38	10a. A/B Soils	75	channel				
		-	Impervious acres draining to grass				
39	10b. C/D Soils	50	channel				
40	11. Other Impervious Disconnection 11a. A/B Soils	50	impervious acres treated				
42	11b. C/D Soils	25	impervious acres treated				
43							
44			TOTAL CREDIT AREA				
45 46			ADJUSTED IMPERVIOUS AR				
47			ADJUSTED IMPERVIOUS 9	0			
48			STEP 2: BMP Efficiency Req	uiremer	nt		
49		Simpl	e Method Calculation Parameters				
50		P	Precipitation (inches/year)				
51 52		Pj I	Fraction of Runoff Producing Ev Adjusted Impervious Cover (%				
53		Rv	Runoff Coefficient	0)			
54		C	Mean Conc. of Total Nitrogen (m	ng/L)			
55		Α	Area (acres)				
56							
57		Post-	Development Load (lbs./yr.)				
58		Require	ed Removal (2.68 TN standard)				
59			BMP Efficiency Requirement				
60	·						
61			STEP 3: BMP S				
	Removal Efficiency fo						
62			Sim Type		Site (> 40% I)		
63			Infiltration 1		40%		
64			Infiltration 2		65%		
65			Bioretention 1		45%		
66 67			Bioretention 2 Extended Detention		55% 35%		
68			Filtering Practice 1		30%		
69			Filtering Practice 2		50%		
70			Constructed Wetland 1		25%		
71 72			Constructed Wetland 2 Wet Pond 1		55% 30%		
73			Wet Pond 1 Wet Pond 2		40%		

1 Di Credits - HiGH IMPERVIOUS COVER (-40%) - Table Organization	Low Impact Development Water Quality Crediting Spreadsheets						
cells in blue are data entry cells cells in yellor are calculated results Froject Name: Refuer Site Area (acres): Impervious Cover (acres): Site Project Name:		A	В	_	D	E	
Cells in blue are data entry cells Cells in yellor are calculated results	П	ID Credits HIGH IMPERVIOUS COVER (>	40%) Table	Organization	_		
Colls in yellor are calculated results S F S	_			т			
Site Area (acres):	4	•					
Foreign For	_	cells in yellor are calculated results		l			
The content of the	Pi	Project Name:		1			
Impervious Cover (%):	r i	•		1			
9	t						
12			=+b7*b8/100				
12 Credit Reduction Credit (%) Unit Credit Area A				-			
Credit Reduction Credit (%) Credit (1: Credits			
13 1. Reforesting Riparian Area		.				I Dadwatian	
13 1. Reforesting Riparian Area 50 acres forested s-413**		Credit		Unit		I-Reduction	
14 Expanding/Protecting Riparian Area 50 acres expanded and/or protected =+414*1	_	Deferenting Dinarion Area		paragifaraginal	(ac)	` '	
16 3a. AyB Soils						=+d13 b13/100 =+d14*b14/100	
16 3a. A/B Soils			- 55	acros expanaes ana er protectes		_,	
1.	_		75	acres conserved		=+d16*b16/100	
18 Function			50	acres conserved		=+d17*b17/100	
19							
20			400	Lagran concerned		1 d10*L40/100	
S. On-Lot Rain Garden, Dry Well,	_					=+d19*b19/100 =+d20*b20/100	
121 Infiltration Practice	_		10	Jacies conserved		-TUZU DZU/100	
23 5a. A/B Solls							
23 50			100	acres of rooftop treated		=+d22*b22/100	
25 6a. Ran Barrels (small storage) 10 acres of rooftop treated =+d25°t	_		50			=+d23*b23/100	
25	_	Ţ ,					
27	_					=+d25*b25/100	
7a. Just soil amendment 25 acres amended =+d28*t			25	acres or roortop treated		=+d26*b26/100	
75	_		25	acres amended		=+d28*b28/100	
30 8. Pervious Parking 31 8a. A/B Soils; infiltration design 50 acres of pervious parking =+d31*t	_					=+d29*b29/100	
32 8b. C/D Soils: underdrain design 50 acres of pervious parking =+d32*t							
33 8c. Other parking draining to perv. parking 25 acres draining to pervious parking =+d33*t 34 9. Green Roof 35 9a. Extensive 50 acres of green roof =+d35*t 36 9b. Intensive 75 acres of green roof =+d36*t 37 10. Grass Channels Impervious acres draining to grass channel =+d38*t 39 10b. C/D Soils 50 Impervious acres draining to grass ehd38*t 40 11. Other Impervious Disconnection 11a. A/B Soils 50 impervious acres treated =+d40*t 41 11a. A/B Soils 50 impervious acres treated =+d40*t 42 11b. C/D Soils 25 impervious acres treated =+d41*t 43		8a. A/B Soils; infiltration design	100	acres of pervious parking		=+d31*b31/100	
34 9. Green Roof 9a. Extensive 50 acres of green roof =+d35°t 36 9b. Intensive 75 acres of green roof =+d36°t 37 10. Grass Channels Impervious acres draining to grass channel =+d38°t 38 10a. A/B Soils Impervious acres draining to grass =+d38°t 40 11. Other Impervious Disconnection 11a. A/B Soils 50 impervious acres treated =+d40°t 41 11a. A/B Soils 50 impervious acres treated =+d40°t 42 11b. C/D Soils 25 impervious acres treated =+d41°t 43 TOTAL CREDIT AREA =SUM(e13 44 ADJUSTED IMPERVIOUS AREA =+b9-e44 45 ADJUSTED IMPERVIOUS W =100°e45/e44 46 STEP 2: BMP Efficiency Requirement 51 Simple Method Calculation Parameters (post-development 52 Simple Method Calculation Parameters (post-development 54 C Mean Conc. of Total Nitrogen (mg/L) 1.1 55 Fotology 1 Adjusted Impervious Cover (%) =e 60 Fotology 1 Adjusted Impervious Cover (%) = 60 Fotology 1 Adjusted Impervious Cover (%) = 60 Fotology 1 Adjusted Impervious Cover (%) = 60 STEP 3: BMP Selection 60 STEP 3: BMP Selection 61 STEP 3: BMP Selection 62 STEP 3: BMP Selection 64 STEP 3: BMP Selection 65 STEP 3: BMP Selection 65 STEP 3: BMP Selection 65 STEP 3: BMP Selection 66 STEP 3: BMP Selection 66 STEP 3: BMP Selection 66 STEP 3: BMP Selection 67 STEP 3: BMP Selection 68 STEP 3: BMP Selection 69 STEP 3: BMP Selection 60 STEP 3: BMP Selection 60 STEP 3: BMP Selection 60 STEP 3: BMP Selection 61 STEP 3: BMP Selection 62 STEP 3: BMP Selection 63 STEP 3: BMP Selection 64 STEP 3: BMP Selection 65 STEP 3: BMP Selection 65 STEP 3: BMP Selection 66 STEP 3: BMP Selection 66 STEP 3: BMP Selection 66 STEP 3: BMP Selection 67 STEP 3: BMP Selection 68 STEP 3: BMP Selection 69 STEP 3: BMP Selection 60 STEP 3: BMP Selection 61 ST						=+d32*b32/100	
35 9a. Extensive 50 acres of green roof =+d35*t 36 9b. Intensive 75 acres of green roof =+d36*t 37 10. Grass Channels	_		25	acres draining to pervious parking		=+d33*b33/100	
36 9b. Intensive 75 acres of green roof =+d36*b 37 10. Grass Channels 10a. A/B Soils 10b. C/D Soils 50 Impervious acres draining to grass channel =+d38*b 40 11. Other Impervious Disconnection 11a. A/B Soils 50 impervious acres treated =+d40*b 41 11a. A/B Soils 50 impervious acres treated =+d40*b 42 11b. C/D Soils 25 impervious acres treated =+d41*b 43			50	I		IOE*I-OE/400	
10a. A/B Soils	_					=+d35*b35/100 =+d36*b36/100	
10a. A/B Soils			75	acres or green roor		=+430 030/100	
10a. A/B Solis	-			Impervious acres draining to grass			
10b. C/D Soils 50 channel =+d39*tb		10a. A/B Soils	75	channel		=+d38*b38/100	
11. Other Impervious Disconnection							
11a. A/B Soils 50 impervious acres treated =+d40*t 12b. C/D Soils 25 impervious acres treated =+d41*t 13c. A/B Soils 25 impervious acres treated =+d40*t 13c. A/B Soils 25 impervious acres treated =+d40*t 13c. A/B Soils 25 impervious acres treated =+d40*t 14c. A/B Soils =+d41*t 13c. A/B Soils 25 impervious Acres =+b9-e44 14c. A/B SOILS ADJUSTED IMPERVIOUS AREA =+b9-e44 14c. A/B SOILS ADJUSTED IMPERVIOUS % =100*e45/t 14c. A/B SOILS ADJUSTED IMPERVIOUS % =100*e45/t 15c. A/B STEP 2: BMP Efficiency Requirement Simple Method Calculation Parameters (post-development Price of Price of Acres of Price of Acres			50	channel		=+d39*b39/100	
11b. C/D Soils 25 impervious acres treated =+d41*b 43	11		50	impersious seres treated		. d40*b40/100	
TOTAL CREDIT AREA	╫			•		=+d40 b40/100 =+d41*b41/100	
TOTAL CREDIT AREA	_	110. 0/2 0010	20	Impervious deres treated		=1411 541/100	
ADJUSTED IMPERVIOUS % =100*e45/ 48				TOTAL CREDIT AREA		=SUM(e13:e42)	
STEP 2: BMP Efficiency Requirement				ADJUSTED IMPERVIOUS AR	EA	=+b9-e44	
STEP 2: BMP Efficiency Requirement	Ļ			ADJUSTED IMPERVIOUS 9	6	=100*e45/b7	
Simple Method Calculation Parameters (post-development	4			0750 0 - 200			
P			C:				
Pj Fraction of Runoff Producing Events 0.552	_				(post-de	evelopment) 43	
S2 I Adjusted Impervious Cover (%) =extra				. , ,	ents	0.9	
Rv Runoff Coefficient =0.05+(0.154 C Mean Conc. of Total Nitrogen (mg/L) 1.1	_					=e46	
A Area (acres) =b				Runoff Coefficient		=0.05+(0.009*e52)	
Post-Development Load (lbs./yr.)	_				ng/L)	1.12	
Post-Development Load (lbs./yr.)	_		Α	Area (acres)		=b7	
Fost-Development Load (los./yr.) e54*e55*2.	4				- //	FO*-F4*-F0\/40*	
Required Removal (2.68 TN standard) =+e57-0.28* 59 60 61 STEP 3: BMP Selection Removal Efficiency BMP Type HIGH Imperviou Site (> 40%	1		Post-	Development Load (lbs./yr.)			
59 60 61 STEP 3: BMP Selection Removal Efficie BMP Type HIGH Imperviou Site (> 40%	┨		Require	d Removal (2.68 TN standard)			
60 61 STEP 3: BMP Selection Removal Efficie BMP Type HIGH Imperviou Site (> 40%							
61 STEP 3: BMP Selection Removal Efficie BMP Type HIGH Imperviou Site (> 40%	_		.,				
BMP Type Removal Efficie HIGH Imperviou Site (> 40%	_			STEP 3: BMP S	Selection	n	
62 Site (> 40%	1				Remo	oval Efficiency for	
				BMP Type		Impervious Cover	
63 Infiltration 1 40%						Site (> 40% I)	
	_						
64 Infiltration 2 65%	_				1		
65 Bioretention 1 45% 66 Bioretention 2 55%	_						
67 Extended Detention 35%	_						
68 Filtering Practice 1 30%							
69 Filtering Practice 2 50%	_						
Constructed Wetland 1 25%				Constructed Wetland 1			
Constructed Wetland 2 55%	_						
72 Wet Pond 1 30% Wet Pond 2 409/	_				-		
73 Wet Pond 2 40%				vvet Pona Z	<u> </u>	40%	

(DCR199-182) (09/07)

5

Low Impact Development Water Quality Crediting Spreadsheets LID Credits -- HIGH IMPERVIOUS COVER (> 40%) cells in blue are data entry cells cells in yellow are calculated results Project Name: Site Area (acres) 5 Impervious (%) 70 Impervious Area (acres) 3.5

STEP 1. Credits					
Credit	Volume Reduction Credit (%)	Unit	Credit Area (ac)	I Reduction (ac)	
1. Reforesting Riparian Area	50	acres reforested	0.1	0.05	
2. Expanding/Protecting Riparian Area	50	acres expanded and/or protected	0	0.00	
3. Open Space Conservation					
3.a. A/B Soils	75	acres conserved	0	0.00	
3.b. C/D Soils	50	acres conserved	0.3	0.15	
4. Open Space Conservation w/					
Hydrologic Function					
4.a. A/B Soils	100	acres conserved	0	0.00	
4.b. C/D Soils	75	acres conserved	0	0.00	
5. On-Lot Rain Garden, Dry Well,		·		·	
Infiltration Practice					
5.a. A/B Soils	100	acres of rooftop treated	0	0.00	
5.b. C/D Soils	50	acres of rooftop treated	0	0.00	
6. Rainwater Harvesting					
6.a. Rain Barrels (small storage)	10	acres of rooftop treated	0	0.00	
6.b. Cisterns (large storage)	25	acres of rooftop treated	0.5	0.13	
7. On-Lot Soil Amendments					
7.a. Just soil amendment	25	acres amended	0	0.00	
7.b. With disconnection	50	acres amended	0	0.00	
8. Pervious Parking					
8.a. A/B Soils, infiltration design	100	acres of pervious parking	0	0.00	
8.b. C/D Soils, underdrain design	50	acres of pervious parking	0.25	0.13	
8.c. Other parking draining to pervious parking	25	acres draining to pervious parking	0.5	0.13	
9. Green Roof					
9.a. Extensive	50	acres of green roof	0	0.00	
9.b. Intensive	75	acres of green roof	0	0.00	
10. Grass Channels	75	acres or green roor	U	0.00	
10. Grass Chamileis		imperious seres draining to gross			
10.a. A/B Soils	75	impervious acres draining to grass channel	0	0.00	
10.b. C/D Soils	50	impervious acres draining to grass channel	0.5	0.25	
11. Other Impervious Disconnection					
11.a. A/B Soils	50	impervious acres treated	0	0.00	
11.b. C/D Soils	25	impervious acres treated	0.5	0.13	
		TOTAL CREDIT ARE	٨	0.05	
1		I OTAL CKEDIT AKE	м	0.95	

ADJUSTED IMPERVIOUS %	51
ADJUSTED IMPERVIOUS AREA	2.55
TOTAL CREDIT AREA	0.95

STEP 2. BMP Efficiency Requirement							
	Parameter (post-development)						
Р	Precipitation (in/yr)	43					
P_{j}	Fraction of Runoff Producing Events	0.9					
ı	Adjusted Imperviousness Cover (%)	51					
R _ν	0.51						
С	Mean Concentration of Total Nitrogen (mg/L)	1.12					
Α	Area (acres)	5					
	Post-Development Load (lb/yr):	25.00					
	Required Removal (2.68 TN standard)						
	46%						

STEP 3. BMP Selection				
ВМР Туре	Removal Efficiency for HIGH Impervious Cover Site (> 40%)			
Infiltration 1	40%			
Infiltration 2	65%			
Bioretention 1	45%			
Bioretention 2	55%			
Extended Detention	35%			
Filtering Practice #1	30%			
Filtering Practice #2	50%			
Constructed Wetland 1	25%			
Constructed Wetland 2	55%			
Wet Pond 1	30%			
Wet Pond 2	40%			

6

(DCR199-182) (09/07)